

RODIONOV
RODIONOV, V.M.

Development of transmitting radio tubes. Trudy Inst. 1st. est. 1
tekh. 11:72-138 '57. (MIRA 11:1)

(Electron tubes--History)

RODIONOV, V.M.

"The history of electrical engineering" [in English] by C.M. Jarvis.

Reviewed by V.M. Rodionov. Vop.ist.est. i tekhn. no.5:213 '57.

(MIRA 11:2)

(Electric engineering)
(Jarvis, C.M.)

SOV/106-59-2-3/11

AUTHORS: Rodionov, V.M., Stokov, V.N. and Sheberova, R.N.

TITLE: Remote-control and Monitoring Equipment for Radio-relay Lines (Apparatura distantsionnogo upravleniya i kontrolya dlya radioreleynykh liniy)

PERIODICAL: Elektrosvyaz', 1959, Nr 2, pp 15 - 23 (USSR)

ABSTRACT: Remotely-controlled and monitored systems for radio-relay lines usually consist of main, manned stations, each of which controls several unmanned, intermediate stations. This article describes one such system developed for the Ministry of Communications. It differs from existing systems in that it uses semi-conductor triodes and cold-cathode thyratrons instead of the usual electronic valves. This reduces the power consumption, increases reliability and simplifies construction.

The system provides for the following possibilities:

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- 1) Transmission of 59 "commands" to any of 10 remotely-controlled stations; receipt of a command by the called station is acknowledged by a special "receipt" signal.
 - 2) Transmission from any of 10 remotely-serviced stations of a signal indicating a change in the condition of one or more of 64 tele-signalling transducers. The signal

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contains only information on the station number at which the change occurs; the nature of the change is not encoded.
3) Transmission from any of the remotely-controlled stations, when requested, of information concerning the condition of each of the 64 tele-signalling transducers, previously mentioned.

Telecontrol Apparatus:

Transmitter - Each command is transmitted in the form of a coded group of three successive ringing tones. Each ringing tone can have one of four frequencies, thereby giving 64 possible code combinations. The code-forming apparatus consists of three semi-conductor oscillators and three thyratrons. The code combination is selected by depression of a knob on the command panel. The circuit is described and the diagram given in Figure 2.

Receiver - The received command is decoded at the remotely-controlled station by a "pyramid" connection of three tiers of thyratrons interconnected in such a manner that ignition of a thyatron in lower tier prepares for firing four thyratrons in the following tier (Figure 2). The first

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(lowest) tier contains four thyratrons; the second, four sets of four and the third, 16 sets of four. The thyratrons are ignited by pulses formed from the ringing tones of the coded command by "signal" thyratrons connected via filters to the output of a two-stage semiconductor signal amplifier. To all the thyratrons of the same number in the sets of four is applied the pulse from the corresponding element of the code combination. The result is that, after a command has been received, a relay in the anode circuit of a particular final-tier thyatron is operated. A three-tier pyramid provides 59 final thyratrons for control and 5 for calling. A circuit for restoring the decoder pyramid to its waiting condition (Figure 3) is then described.

Tele-signalling apparatus - The telesignalling apparatus consists of the tele-signalling equipment proper, common emergency equipment and the receipt signalling equipment. Each of the above has a receiving and transmitting section. The transmitting section consists of thyatron circuits connected in such a manner that ignition of each circuit, after a time delay of about 30 milliseconds, triggers the following thyatron. The simplified diagram is given in

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Figure 4. The first thyatron is triggered when the station is called. Tele-signalling transducers are connected in the cathodes of the thyratrons and, depending on the condition of the transducer, the thyatron anode pulse operates one or the other of two, different-frequency semiconductor oscillators. The result is that the order of the frequencies in the transmitted pulse train depends on the conditions of the transducers.

The receiver section contains two circuits of transistor amplifiers with filters and signal thyratrons. The circuit forms pulses from the received ringing tones when "Call Tele-signalling" button is pressed. The basic "repeat" of the receiver circuit is a double-circuit, each arm of which contains a pair of thyratrons (Figure 5). From the common cathode resistance of each pair is taken the bias for preparing the following pair. Triggering pulses for the lower thyratrons of each pair come from the signal thyatron of one frequency and for the upper, from the signal thyatron of the other frequency. Thus, the thyratrons ignited in the different pairs depend on the character of the received

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combination. The number of "repeats" of the basic circuit equals the number of signal impulses applied to the receiver.

Finally, the emergency and receipt signal circuits are described. The techniques used are similar to those used in the other parts of the equipment. The circuit of the common emergency signalling transmitter is given in Figure 6; for the emergency receiver, in Figure 7; for the receipt signalling apparatus, in Figure 8. There are 8 figures and 2 Soviet references.

SUBMITTED: May 29, 1958

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L 25658-66 EWT(1)/I/EWA(h) WR

ACC NR: AM5027785

Monograph

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30

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Rodionov, V. M.

^{25B}
Transmission lines and high-frequency antennas; collection of nomograms (Linii pere-
dachi i antennoy sverkhvysokikh chastot; sbornik nomogramm) Moscow, Izd-vo "Sovetsko-
ye radio", 1965. 118 p. illus., biblio., 104 nomograms (in picket). 7,000 copies.

TOPIC TAGS: radio transmission, transmission line, antenna engineering, calculation

PURPOSE AND COVERAGE: The book contains 104 nomograms which cover the most frequently encountered problems in the design of transmission line elements and antenna devices for microwave frequencies. They facilitate computation and greatly reduce the time of repetitive calculations. In addition, the nomograms can solve several analytic and research problems encountered by scientific workers who do not engage in large scale calculations. The book consists of an explanation brochure and a set of nomograms. The brochure can be used as a handbook containing data on the character and range of application of the formulas on which the nomograms are based. The collection is intended for engineering-technical workers and also for teachers and students specializing in antennas and transmission lines. The author thanks L. S. Benenson for valuable advice and D. P. Linde for remarks made during the review of the manuscript.

TABLE OF CONTENTS [abridged]:

Introduction - - 3

Ch. I. Auxiliary nomograms - - 5

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UDC: (083.57)621.396.67:621.396.679.4:621.372.8

2

L 25658-66

ACC NR: AM5027785

Ch. II. Transmission lines - - 11
Ch. III. Microwave antennas - - 49
Ch. IV. Technique of measurements of transmission lines and antennas - - 82
List of nomograms and nomographed formulas - - 98
Literature - - 115

SUB CODE: 09/ SUBM DATE: 05Apr65/ ORIG REF: 036/ OTH REF: 026

Curd 2/2 dda

RODIONOV, V.M.

Principal trends in the development of radio wave generation
techniques. Trudy Inst. ist. est. i tekhn. 44:257-274 '62.
(MIRA 18:3)

RODIONOV, V.M.; BENENSON, L.S., red.; KUCHUMOVA, K.I., red.

[Transmission lines and superhigh frequency antennas;
collection of nomograms] Linii peredachi i antenry
sverkhvysokikh chastot; sbornik nomogramm. Moskva, So-
vetskoe radio, 1965. 118 p. (MIRA 18:7)

ORLOVA, L.V.; KLIMOVA, S.P.; RODIONOV, V.M.

Radioprotective qualities of the adrenocorticotrophic hormone (ACTH).
Med. rad. 9 no.6:19-22 Je '64. (MIRA 18:2)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR.

RODIONOV, V.M.; CHUDINOVSKIY, A.V.

Comparison of the serum albumin and α_2 -globulin of dogs
isolated before and after the irradiation of the animal.
Radiobiologiya 3 no.5:691-697 '63. (MIRA 17:4)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR,
Moskva.

RODIONOV, V.M.; ORLOVA, L.V.; TUUL', L.I.; KLIMOVA, S.P.

Effect of stimulation of the peripheral end of the splanchnic nerve on the secretory function of the adrenal cortex. Dokl. AN SSSR 151 no.5:1238-1240 Ag '63. (MIRA 16:9)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR.
Predstavleno akademikom A.N. Bakulevym.
(ADRENAL CORTEX) (NERVES, SPLANCHNIC)

RODIONOV, V.M.

Biochemical mechanisms of radiation lesions. Vest.AMN SSSR 17
no.9:48-58 '62. (MIRA 15:12)

1. Laboratoriya biokhimii luchevykh porazheniy Instituta
biologicheskoy i meditsinskoy khimii AMN SSSR, Moskva.
(RADIATION SICKNESS)

KELROVA, Ye.M.; ANTOKOL'SKAYA, Zh.A.; RODIONOV, V.M.

Quantitative change in the sulfhydryl groups in liver cell nucleoproteins of irradiated rats. Biokhimiia 27 no.4:685-688 J1-Ag '62.

(MIRA 15:11)

1. Institute of Biological and Medical Chemistry, Academy of Medical Sciences of the U.S.S.R., Moscow.

(RADIATION--PHYSIOLOGICAL EFFECT) (LIVER)

(MERCAPTO GROUP) (NUCLEOPROTEINS)

RODIONOV, V.M.; ORLOVA, L.V. (Moskva)

Study of the secretion of corticosteroids by the adrenals in irradiated dogs in a chronic experiment. Pat.fiziol.i eksp.terap. 6 no.2:13-18
Mr-Apr '62. (MIRA 15:8)

1. Iz Instituta biologicheskoy i meditsinskoy khimii AMN SSSR (dir. -
deystvitel'nyy chlen AMN SSSR prof. V.N.Orekhovich).
(ADRENAL GLANDS) (RADIATION--PHYSIOLOGICAL EFFECT)

RODIONOV, V.M., KEDROVA, E.M., ANTONOLSKAYA, Zh.A., (USSR)

"The SH-group Content in Subcellular Structures of
the Liver Cells of Rats Exposed to X-Rays."

Report presented at the 5th Int'l. Biochemistry Congress,
Moscow, 10-16 Aug 1961.

RODIONOV, V.M.; ORLOVA, L.V.; TUUL', L.I.

Methods for sampling the blood draining from the adrenals in chronic experiments. Biul. eksp. biol. i med. 50 no. 11:133-135 N '60.

(MIRA 13:12)

1. Iz Instituta biologicheskoy i meditsinskoy khimii AMN SSSR, Moskva.

(ADRENAL GLAND—BLOOD SUPPLY)

RECEIVED, V.M.

U S S R

✓ Changes in the volume of circulating blood following critical blood-letting and replacement with protein blood substitutes. V. M. Rodionov (Inst. Biol. and Med. Chem., Acad. Med. Sci. U.S.S.R., Moscow). *Arkh. Patol.* 17, No. 2, 21-30 (1953).—Dogs narcotized with 0.5 mg. of morphine/kg. were bled critically, and removed blood replaced in individual instances by a colloidal infusion (I), nonanaphylactic serum (II), and by species-non-specific serum (III) while the animals were in a state of agony. I, II, and III had the following resp. phys. properties: osmotic pressure 240-280, 130-160, 185-190 (units not given); viscosity 2.4, 3-5, 1.25 (units not given); pH 7.4-7.8, 7.2-7.8, 7.3-7.5. Six to 8 hrs. after the blood-letting and blood-substitute injection the protein content of the circulating fluid increases percentagewise. This is followed by a period of reduction in hemoglobin in (Hb) and protein concn. With nonanaphylactic serum this period is followed by a long period of normal level protein concn., and in the case of colloidal infusion the protein level rises slowly to normal. There is a simultaneous rise in the Hb. This indicates that much H₂O had permeated out of the vascular channel. During the following 2-3 days the Hb level decreases while the protein concn. decreases only slightly or it slowly comes back to the normal level, indicating a regeneration of the circulating proteins.

B. S. Levine

REDIONOV, V. M.

Redionov, V. M.

"The productivity and certain biological features of hybrid sheep in the Buryat Mongol ASSR." All-Union Sci Res Inst of Animal Husbandry. Moscow, 1956. (Dissertation for the Degree of Candidate in Agricultural Sciences).

Knizhnaya letopis'
No. 21, 1956. Moscow.

RODIONOV, V. M.

✓ The nitrogen balance and the regeneration of serum proteins in dogs subjected to prolonged protein hunger during intravenous feeding with heterogenous proteins. V. V. L'vova, A. B. Gurvich, V. M. Rodionov, N. A. Fedorov, and B. I. Khodorov (Inst. Biol. and Med. Chem., Acad. Med. Sci. U.S.S.R., Moscow). *Arkh. Patol.* 18, No. 6, 99-109 (1956). — The exptl. dogs received daily 200 g. sugar, 60 g. butter and 14 g. starch, amounting to 90-100 kcal./kg. of animal. Also in the ration were 2 g. NaCl, 3 g. balanced salt mixt. (contg. all required anions and cations), vitamins C, B₁, B₂ and fish oil and 1 g. of dried brewers' yeast. Animals were kept on this diet for a period of 6-7 months. Some of the exptl. dogs were subjected in addn. to plasmaphoresis 5-8 times prior to the parenteral feeding. Expts. were performed with 3 dogs. Each test consisted of a period of protein hunger prior to the intravenous feeding and of a period of intravenous feeding with non-anaphylactic heterogeneous serum protein preps. nos. 24 and 32 for 3-18 days. One of the dogs received only one of the proteins and the other two dogs received both proteins on an alternating basis. Proteins 24 and 32 were rendered free from anaphylactogenic properties, but retained the property of producing high titer precipitin reactions. Records were kept of the following prior to the period of protein hunger and during the expt.: protein balance index, concn. of the total serum proteins in the plasma, protein fractions of the blood serum, hemoglobin and vol. index, and wt. of the animals. Changes in the protein fractions were detd. electrophoretically by the Tiselius app. Daily intravenous injections into dogs of proteins 24 and 32 for a prolonged period of time are well tolerated by the animals and are well assimilated by hypoproteinemic dogs. A pos. N balance is established within the first few days and is maintained throughout the period of parenteral feeding, protein 32 being more effectively assimilated than protein 24. The parenteral injection of the non-anaphylactogenic proteins 24 and 32 prolonged the period of survival of the protein starved dogs but did not prevent their untimely death. B. S. Levine

5

USSR/Human and Animal Physiology - Effects of Physical
Factors. Ionizing Radiation.

P-11

Abs Jour : Ref Zhur - Biol., No 18, 1958, 34698

Author : Orlova, L.V., Rodionov, V.M.

Inst : -

Title : Content of Steroid Hormones in the Adrenal Blood of
Irradiated Dogs.

Orig Pub : Patol. fiziologiya i eksperim. terapiya, 1957, 1, No 4,
22-26.

Abstract : Blood was drawn 40 minutes and then again 1-7 days follo-
wing irradiation of dogs with DL100, by using a cannula
inserted into the central terminal of the lumbo-adrenal
vein. Death of the animals resulted on the 7th-10th days
after irradiation. The total concentration of corticos-
terone in the plasma of control and of irradiated dogs
fluctuated within the limits of 284-900 γ per 100 ml of
plasma. However, average concentrations of hormones in

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... of adrenal glands took place. -- Ye.A. Asaturova

USSR/Human and Animal Physiology (Normal and Pathological).
Adrenals.

T-7

Abs Jour : Ref Zhur - Biol., No 16, 1958, 74968

content of the corticosteron, was equal in unexposed rabbits to 0.03-0.04, but increased after exposure up to 0.242. Total quantity of corticosteroids almost did not change. The greatest changes were observed during the first 3 days after exposure.

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were investigated and the albumins, α_1 , α_2 , α_3 , β_1 , β_2 , γ , and the γ -globulins of the plasma were determined by

Rodionov V.A.
KOZINER, V.B., RODIONOV, V.M.

Use of T-1824 dye in determining the volume of circulating blood.
Lab.delo 4 no.3:19-21 My-Je '58 (MIRA 11:5)

1. Iz Instituta biologicheskoy i meditsinskoy khimii (dir. - prof.
V.N. Orekhovich) AMN SSSR, Moskva.
(BLOOD VOLUME)

RODIONOV, V.M., USPENSKAYA, V.D., ZAMYATKINA, O.G., GRUNT, T.A., POLYAKOVA, V.B

Effect of total-body x-irradiation on the restoration of serum proteins following blood loss in dogs [with summary in English].
Vop.med.khim. 4 no.5:327-338 S-O '58. (MIRA 11:11)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR,
Moskva.

- (BLOOD PROTEINS,
restoration after exper. hemorrh., eff. of total
body x-irradiation (Rus))
- (ROENTGEN RAYS, effects,
total body, on blood protein restoration after
exper. hemorrh. (Rus))
- (HEMORRHAGE, exper.
eff. of total body x-irradiation on restoration
of blood proteins (Rus))

EXOTICATA MEDICA Sec 14 Vol 13/8 Radiology Aug 59

1515. INACTIVATION OF SH-GROUPS OF TISSUE PROTEINS IN X-IRRADIATED RATS (Russian text) - Rodionov V. M. and Kredrova E. M. Inst. of Biol. and Med. Chem., Acad. of Med. Scis of the USSR, Moscow - BIOKHIMIYA 1958, 23/5 (689-699) Graphs 7

Irradiation causes a decrease in the amount of SH-groups in liver and spleen proteins. Inactivation of 'slowly reacting' SH-groups which sets in only during irradiation or shortly thereafter being linked with direct action of the ionizing radiation on the tissue can be prevented by treating the animal prior to irradiation with protective doses of cysteine. Inactivation of 'free' SH-groups of the tissue proteins occurs not only during irradiation or shortly following it but in the course of a few subsequent days as well. Cysteine administration prior to irradiation reduces but does not prevent the inactivation of 'free' SH-groups. When administered prior to irradiation to animals preliminarily treated with ACTH, cysteine not only does not protect the SH-groups of tissue proteins but, on the contrary, accelerates their inactivation. It is suggested that inactivation of the SH-groups of tissue proteins is one of the factors underlying the disturbance of intermolecular bonds of the protein molecules and the derangement of the biological structures within the irradiated organism.

(II, 14)

ZAMYATKINA, O.G.; RODIONOV, V.M.

Investigation of the causes of disorders in the restoration of blood proteins in irradiated dogs after blood loss. Report No.1: Assimilability of nitrogen and the quantity of consumed food. Vop.med.khim. 5 no.4:293-298 Jl-Ag '59. (MIRA 12:12)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR, Moskva.
(RADIATION EFFECTS)
(HEMORRHAGE exper.)
(NITROGEN metab.)

RODIONOV, V.M.; KEDROVA, Ye.M.; Primal uchastiye: MARCHENKO, G.I.

Effect of total-body irradiation on the amount of sulfhydryl groups in various fractions of soluble liver proteins. Bio-khimiia 24 no.3:539-544 My-Je '59. (MIRA 12:9)

1. Institute of Biological and Medical Chemistry, Academy of Medical Sciences of the U.S.S.R., Moscow.

(LIVER, eff. of radiations,
total-body x-irradiation, on sulfhydryl cpds.
in liver protein solution (Rus))

(SULFHYDRYL COMPOUNDS,
in liver protein solution, eff. of total-body
x-irradiation (Rus))

(PROTEINS,
eff. of total-body x-irradiation on sulfhydryl
cpds. in liver protein solution (Rus))

(ROENTGEN RAYS, eff.
same)

RODIONOV, V.M.; CHUDINOVSKIKH, A.V.; ANTOKOL'SKAYA, Zh.A.; LOBOD, L.A.

Inclusion of S^{35} -methionine into blood proteins in irradiated animals following blood loss. Biul.eksp.biol. i med. 47
no.6:43-47 Je '59. (MIRA 12:8)

1. Iz Instituta biologicheskoy i meditsinskoy khimii (dir. -
deystvitel'nyy chlen AMN SSSR V.N.Orekhovich) AMN SSSR, Moskva.
Predstavlena deystvitel'nyy chlenom AMN SSSR V.N.Orekhovichem.

(METHIONINE, in blood,

blood protein uptake of radiosodium-labeled
methionine in x-irradiated animals after hemorrh.
(Rus))

(HEMORRHAGE, exper.
same)

(BLOOD PROTEINS,
same)

(ROENTGEN RAYS, eff.
same)

RODIONOV, V.M.; ORLOVA, L.O.; TUUL', L.I. (Moskva)

Effect of various X-ray doses on corticosteroid secretion in rabbits. Pat.fiziol.eksp.terap. 4 no.1:24-28 Ja-P '60. (MIRA 13:5)

1. Iz Instituta biologicheskoy i meditsinskoy khimii AN SSSR.
(ADRENAL CORTEX HORMONES physiol.)
(RADIATION EFFECTS)

USPENSKAYA, V.D.; ALEKSEYENKO, L.P.; RODIONOV, V.M.; SOLOV'YEVA, N.I.

Plasma α_3 -proteins from the blood of a dog. Biokhimiia
26 no.4:673-687 J1-Ag '61. (MIRA 15:6)

1. Institut of Biological and Medical Chemistry Academy of
Medicinal Sciences of the USSR, Moscow.
(BLOOD PROTEINS)

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27.1220

S/218/62/027/004/001/001
1016/1216

AUTHORS: Kedrova, Ye. M., Antokol'skaya, Zh. A., and Rodionov, V. M.

TITLE: The change in number of SH—groups in nuclear proteins of liver cells from irradiated rats

PERIODICAL: Biokhimiya, v. 27, no. 4, 1962, 685–688

TEXT: The changes in the SH—group content of the globulin, deoxyribonucleoprotein and the “acidic protein” fractions of rat liver cell nuclei resulting from X-irradiation were studied. It was hoped that identification of the protein fraction the SH-content of which is most strongly affected by irradiation might shed some light on the antimutagenic effect of ionizing radiation. White rats, weighing 180–200 g each were X-irradiated with the PYM-3 (RUM-3) apparatus under the following conditions: 185 kv, 15 ma, 1 mm Al and 0.5 mm Cu filters, dose rate — 55 r/min, total dose 1500 r. All the control rats irradiated under these conditions died within 4 days after irradiation. The experimental rats were killed 30 min, 1, 2 and 3 days after irradiation, the livers were perfused in situ with cold Ringer's solution followed by 0.25 M sucrose, removed and homogenized in 2.2 M sucrose. The cell nuclei were isolated and washed with 0.88 M sucrose. The purity of the nuclear preparation was checked microscopically after staining with methyl green-pyronine. The proteins were extracted with 0.14 M NaCl, 1.5 M NaCl and 0.025 N NaOH, consecutively, according to Zbarskii and

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The change in numbers of SH-groups...

S/218/62/027/004/001/001
1016/1216

Georgiev, Biokhimiya, vol. 24, p. 192, 1959. The SH-groups were determined by amperometric titration with HgCl_2 . It was found that already 30 min. after irradiation the SH-content of the globulins decreased by 30% and that of the deoxyribonucleoprotein fraction decreased by about 44%. On the other hand, the SH-content of the "acidic protein" from the nucleolus increased as a result of irradiation by more than 50%. There are 2 tables.

ASSOCIATION: Institut biologicheskoy i meditsinskoy Khimii Akademii meditsinskikh nauk SSSR
(The Institute of Biological and Medical Chemistry, Academy of Medical Sciences,
USSR) Moscow

SUBMITTED: December 27, 1961

Card 2/2

KEDROVA, Ye.M.; ANTOLKOL'SKAYA, Zh.A.; RODIONOV, V.M.

Changes in the amount of sulfhydryl groups in structural elements
of cells in the X-irradiated rat liver. Biokhimiia 26 no.2:234-236
Mr-Ap '61. (MIRA 14:5)

1. Institute of Biological and Medical Chemistry, Academy of Medical
Sciences of the U.S.S.R., Moscow.
(LIVER) (MERCAPTO GROUP) (X RAYS—PHYSIOLOGICAL EFFECT)

RODIONOV, V. M., and ORLOVA, L. V. (USSR)

"Corticosteroid Secretion in Irradiated Dogs."

Report presented at the 5th International Biochemistry Congress,
Moscow, 10-16 Aug 1961

RODIONOV, V. M., SHPIKITER, V. O., USPENSKAYA, V. D., ALEKSEYENKO, L. P.,
and SOLOVYEVA, N. I. (USSR)

"The Protein of Canine Plasma."

Report presented at the 5th International Biochemistry Congress,
Moscow, 10-16 Aug 1961

ACCESSION NR: AT4035834

S/2534/64/000/024/0091/0098

AUTHOR: Ryabinin, Yu. N.; Rodionov, V. N.; Drem'in, A. N.

TITLE: Possibilities of polymorphic transitions under shock-wave compression

SOURCE: AN SSSR. Komitet po meteoritam. Meteoritika, no. 24, 1964. Trudy*
Dosyato'y Meteoritnoy konferentsii v Leningrade 29 maya-1 iyunya 1962 g., 91-98

TOPIC TAGS: silica, meteorite, coesite, meteorite crater, polymorphic transition,
high pressure geophysics, quartz coesite transition, stichovite

ABSTRACT: The structure and physical properties of coesite are discussed, together with the quartz-coesite transition and the entire history of discovery of silica modifications. Much of this introductory discussion is based on American sources. Such a transition was discovered by S. M. Stishov and S. V. Popova in the USSR in 1961. They discovered a new silica modification having a density 64% higher than quartz. It was formed artificially at a static pressure of 160,000-180,000 kg/cm² and a temperature of 1200-1400C and had a density of 4.35 g/cm³. It crystallizes in a tetragonal structure of the rutile type and has very high refractive indices. Under ordinary conditions it is metastable; when heated to 900C at atmospheric pressure, it undergoes a transition to cristobalite. Various finds of coesite in meteor craters are described, and there is a discussion of ex-

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ACCESSION NR: AT4035834

periments made to determine the possibility of formation of coesite under natural conditions at high pressures and temperatures. The authors undertook such an experiment to achieve a quartz-coesite transition under the influence of a shock wave; an effort was made to determine at exactly what pressure the transition would occur. Determination of the pressure and corresponding temperature of this transition made it possible to estimate the minimum velocity of flight of a meteorite at the time of its impact against the earth's sandstone surface at which the formation of coesite would occur. The mathematical solution of this problem is presented. It is shown that a polymorphic transition with a large jump in density is possible during an extremely brief application of high pressure and temperature (of the order of 10^{-6} sec). The authors then attempt to estimate the mass and velocity of a meteorite on the basis of the size of the crater formed. Indirect methods are required, owing to an inadequate knowledge of the properties of rocks and soils. The primary method used is comparison of the craters of explosions and meteor craters, which outwardly appear very similar. An expression is derived giving the dependence of the radius of a crater on the momentum of the falling body. An estimate was made of the minimum velocity of the meteorite forming the Wabar meteorite crater. The value determined was 2 km/sec; the maximum mass of the meteorite determined from the formulas presented was 1000 tons. The cited formulas are correct for relatively small craters with a radius not greater than about 100 m. Orig. art. has: 12 formulas, 3 figures, and 1 table.

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ACCESSION NR: AT4035834

ASSOCIATION: Komitet po meteoritam, Akademiya nauk SSSR (Committee on Meteorites,
Academy of Sciences SSSR)

SUBMITTED: 00

STD PRESS: 3077

ENCL: 00

SUB CODE: ES, AA

NO REF SOV: 009

OTHER: 012

RODIONOV, V.N., kand. fiziko-matem. nauk

Increasing the effectiveness of blasting in a solid medium.
Vzryv. delo no.51/8:50-60 '63. (MIRA 16:6)

1. Institut khimicheskoy fiziki AN SSSR.
(Blasting)

RODIONOV, V.N., kand. fiz.-mat. nauk, st. nauchn. sotr.

[Increasing the efficiency of blasting in a solid medium]
K voprosu o povyshenii effektivnosti vzryva v tverdoi
srede. Moskva, In-t gornogo dela im. A.A.Skochinskogo.
1962. 29 p. (MIRA 17:7)

1. Institut khimicheskoy fiziki AN SSSR .

RODIONOV, V. N.; Romashov, A. N.; Sukhotin, A. P.;

Inst Chemical Physics, AS USSR

"Explosion in an Unbounded Medium of Increasing Density"
Doklady Akademii Nauk, Vol 123, No 4, 1 Dec 58, pp 627-630

Theory of Underground Explosions Studied

The unusual development of an underground explosion, it is noted, is associated with the large irreversible deformations of the medium. The article presents the main results of an experimental and theoretical investigation of explosions in an elastic medium of increasing density. The experiments were carried out in sandy soil, but because of the good agreement between experimental results and the theoretical treatment, the authors conclude that the results are valid for many types of soils ("Explosion in an Unbounded Medium of Increasing Density," by A. N. Romashov, V. N. Rodionov, and A. P. Sukhotin, Institute of Chemical Physics, Academy of Sciences USSR; Moscow, Doklady Akademii Nauk, Vol 123, No 4, 1 Dec 58, pp 627-630)

SOURCE: US Dept Commerce, OTS, PB 131363-57, 13 March 1959, UNCLASSIFIED
Info on Soviet Bloc International Geophysical Cooperation -- 1959

DOKUCHAYEV, Mikhail Moiseyevich; RODIONOV, Vladimir Nikolayevich;
ROMASHOV, Aleksandr Nikolayevich; SADOVSKIY, M.A., otv.
red.; NIKOLAYEVA, L.K., red.izd-va; MAKOGONOVA, I.A.,
tekhn. red.

[Draw blasting] Vzryv na vybros. Moskva, Izd-vo AN SSSR,
1963. 104 p. (MIRA 17:1)

1. Chlen-korrespondent AN SSSR (for Sadovskiy).

ADADUROV, G.A. (Moskva); DREMIN, A.N. (Moskva); PERSHIN, S.V. (Moskva);
RODIONOV, V.N. (Moskva); RYABININ, Yu.N. (Moskva)

Shock wave compression of quartz. PMTF no.4:81-89 J1-Ag '62.
(MIRA 16:1)

(Shock waves) (Compressibility) (Quartz)

10(2)
AUTHORS: Romashov, A. N., Rodionov, V. N., Sukhotin, A. P. SOV/20-123-4-13/53
TITLE: Explosion in an Unbounded Medium of Increasing Density (Vzryv v uplotnyayushcheysya neogranichennoy srede)
PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 4, pp 627-630 (USSR)

ABSTRACT: The present paper deals with the most important results obtained by the experimental and theoretical investigation of an explosion in a compressing nonelastic medium. First, a short report is given about the experimental method employed. Explosive charges of 1.0; 6.0 and 24.0 g were caused to explode in sandy soil having a density of 1.5 g/cm³ and a moisture content of 6%. In the course of the experiments, the influence exercised by the free surface upon the development of the explosion was eliminated. The propagation velocity of the wave front and the time-dependent development of the displacement of spherical layers round the explosion center were determined. For this purpose, foils of 0.1 mm thickness were fastened to the ground, as a result of the explosion they were displaced together with the medium. The electric signals were recorded by means of a cathode oscillograph OK-24(IKhF).

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SOV/20-123-4-13/53

Explosion in an Unbounded Medium of Increasing Density

The following experimental results were obtained: A diagram shows a typical dependence $r(t)$, which was determined in connection with an explosion of a 24 g charge, viz. for a layer located at a distance of 10 cm from the center of the charge. Similar curves were plotted also for the other distances. These curves then give the field of displacement round the charge at different instants of time. By differentiation of the curves $r(t)$ for the time dependence of the displacements the velocity field for the displacement of particles of the medium and also the variation of this velocity field with respect to time are then found. The following expressions hold:

$$D = 40 \sqrt[3]{q/R}; u = 3.4 (\sqrt[3]{q/R})^{1.8}; v = u(R/r)^{1.5}.$$

Here, R, r [m] denote the coordinates of the front and the current coordinate; q [kg] - the weight of the charge; D [m/sec] - the velocity of the wave front; u, v [m/sec] - the velocities of the displacements of particles of the medium on and behind the front respectively at a distance r from the center of the charge. From the data thus obtained, the kinetic energy (for various instants of time) are then determined. Their value varies only little and amounts to $\sim 2-3\%$ of the

Card 2/4

SOV/20-123-4-13/53

Explosion in an Unbounded Medium of Increasing Density

"APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R001

total energy E . The irreversible energy consumption due to heating of the soil during its deformation amounts to 70-80% of E . With increasing propagation of the wave front, compression behind the front diminishes. The authors then raise the problem of an explosion in an infinite nonelastic deformable medium; the equations of motion for a centrally symmetric motion are given. The plasticity condition has the form $\sigma_{rr} - \sigma_{\varphi\varphi} = m(\sigma_{rr} + 2\sigma_{\varphi\varphi})$. The boundary conditions of the problem and an ansatz for its solution are written down. The course of calculation is outlined and the expression found for the pressure P is written down. If certain coefficients found in this connection are known, all other parameters for the motion performed by the soil can be calculated, and, above all, an expression is given for the velocity field of displacement. Velocities depend only to a small extent on the properties of the elastically deformable medium. The regularities derived in this paper probably apply to a large group of soils. There are 2 figures, 1 table, and 1 Soviet reference.

Card 3/4

SOV/20-123-4-13/53

Explosion in an Unbounded Medium of Increasing Density

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR
(Institute of Chemical Physics of the Academy of Sciences,
USSR)

PRESENTED: June 28, 1958; by N. N. Semenov, Academician

SUBMITTED: June 28, 1958

Card 4/4

L 33677-66 EWP(m)/EWT(1) WW

ACC NR: AP6013893

SOURCE CODE: UR/0020/66/167/006/1253/1255

AUTHOR: Sadovskiy, M. A. (Corresponding member AN SSSR); Adushkin,
V. V.; Rodionov, V. N.

ORG: Institute of Soil Physics im. O. Yu. Shmidt AN SSSR (Institut
fiziki zemli AN SSSR)

TITLE: Simulation of large ejection explosions⁵

SOURCE: AN SSSR. Doklady, v. 167, no. 6, 1966, 1253-1255

TOPIC TAGS: explosive charge, mining engineering

ABSTRACT: The properties of the crushed ore are determined by the density ρ , the coefficient of internal friction k , and a parameter σ , which has the dimensions of stress and which characterizes the bond between the ejected ore and the main ore body. The initial conditions are determined by the energy of the gas in the cavity E , the pressure P , and the adiabatic index of the gas γ , and also by the shortest distance w , from the center of the cavity to the exposed surface of the main ore body. The basic parameter of the crater is its radius R , measured at the level of the free surface. Since the explosion takes place in a gravity field, the acceleration due to gravity g , must be

Cord 1/2

UDC: 534.222.2

L 33677-66

ACC NR: AP6013893

included in the parameters determined. Based on these parameters, according to the theory of similarity, the dependence of the radius of the crater on the initial conditions and the properties of the medium being exploded can be written in the form

$$\begin{aligned} R/w &= F_1(E/\rho g w^4; E/\sigma w^3; R_p/w; \gamma; k) \\ R/w &= F_2(P/\rho g w; P/\sigma; R_p/w; \gamma; k). \end{aligned} \quad (1)$$

The number of parameters can be reduced if it is taken into account that the work expended against the bonding forces and the lifting energy in the gravity force field should actually be summed. Thus, we get:

$$\frac{R}{w} = F_1(E/(\rho g w^4 + \sigma w^3); R_p/w; \gamma; k). \quad (2)$$

Calculations with the use of the above formula are compared with actual experimental data from a full scale explosion. Results of the comparison are satisfactory. Orig. art. has: 2 formulas and 3 figures.

SUB CODE: 13/ SUBM DATE: 20Jan66/ ORIG REF: 001/ OTH REF: 001

Card 2/2

RODIONOV, V.N.; ROMASHOV, A.N.; SHAMIN, V.M.

Arranging the underground storage of explosives. Shakht.stroi.
no.9:12-15 S '59. (MIRA 12:12)

1. Institut khimicheskoy fiziki AN SSSR.
(Mining engineering) (Explosives--Storage)

RODIONOV, V. N.

Rechnoe sudovozhdenie [River navigation] Moskva, Rechizdat, 1952. 308 p.

SO: Monthly List of Russian Accessions, Vol 6 No 6 September 1953

RODIONOV, Vasilii Nikolayevich; RUL'KOV, D.I., retsenzent; NAUMOV, A.I.,
red.; MAKHUSHINA, A.N., red.izd-va; TSVETKOVA, S.V., tekhn.red.

[Ship handling in inland waterways] Sudovozhdenie na vnutrennikh
vodnykh putiakh. Moskva, Izd-vo "Rechnoi transport," 1957.
358 p. (MIRA 11:1)

(Inland navigation)

SHANCHUROV, Pavel Nikolayevich, dotsent, kand.tekhn.nauk; BUKHANOVSKIY,
I.L., starshiy nauchnyy sotrudnik, kapitan dal'nego plavaniya,
retsenzent; RODIONOV, V.N., retsenzent; SUKHARIN, V.I., retsenzent;
SUTYRIN, M.A., retsenzent; MIRONOV, V.P., starshiy nauchnyy
sotrudnik, red.; LOBANOV, Ye.M., red.izdatel'stva; YERMAKOVA,
T.T., tekhn.red.

[Ship handling on inland waterways] Sudovozhdenie na vnutrennikh
vodnykh putiyakh. Moskva, Izd-vo "Rechnoi transport," 1959. 343 p.
(MIRA 13:2)

1. Tsentral'nyy nauchno-issledovatel'skiy institut ekonomiki i
ekspluatatsii vodnogo transporta (for Bukhanovskiy, Mironov).
2. Nachal'nik sudokhodnoy inspektsii Volzhskogo basseyna (for
Sukharin). 3. Zamestitel' glavnogo revizora bezopasnosti dvi-
zheniya Ministerstva rechnogo flota (for Sutyurin).
(Ship handling) (Inland navigation)

SAPOZHNIKOV, Yefim Nus'yevich, inzh.; RODIONOV, Vasiliy Nikolayevich,
inzh.; GARASHCHENKO, Grigoriy Matveyevich, inzh.;
MAYBORODA, N.V., inzh., retsenzent;

[Manual for an amateur navigator] Posobie sudovoditeliu-
liubiteliu. Izd.2., perer. i dop. Kiev, Izd-vo "Tekhnika,"
1964. 277 p. (MIRA 17:5)

RYABININ, Yu.N.; RODIONOV, V.N.; DREMIN, A.N.

Possibilities of polymorphic transitions during shock
compression. Meteoritika no.24:91-98 '64. (MIRA 17:5)

SAPOZHNIKOV, Yefimov Nus'yevich; RODIONOV, Vasiliy Nikolayevich;
GARASHCHENKO, Grigoriy Matveyevich; TANCHAROVA, V., red.;
SYCHUGOV, V., tekhn. red.

[Manual for an amateur boating enthusiast] Posobie sudovo-
diteliu-liubitelu. Kiev, Gos. izd-vo tekhn. lit-ry, 1961.
215 p. (MIRA 15:3)

(Boats and boating)

L 23570-65

EWI(1) GW

AM4033963

BOOK EXPLOITATION

s/ Bt

Dokuchayev, Mikhail Moiseyevich; Rodionov, Vladimir Nikolayevich; Romashov, Aleksandr Nikolayevich

Ejection explosion (Vzryv na vybros) Moscow, Izd-vo AN SSSR, 1963. 104 p. illus., biblio. Errata slip inserted. 1200 copies printed. (At head of title: Akademiya nauk SSSR. Institut fiziki Zemli)

TOPIC TAGS: explosive, explosive throwout, explosive theory

PURPOSE AND COVERAGE: This monograph is intended for blasting engineers and technicians and for scientific personnel engaged in research on explosives and explosion effects. An attempt is made to summarize the results of experimental explosions carried out in the USSR during the period 1957--59. The material is presented in two parts. Part I deals with general laws governing explosions in the ground based on small experimental blasts in sand. In Part II, results of throwout explosions using charges from 100kg to 1000 tons are evaluated.

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AM4033963

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Explosion in a dimensionless medium

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Explosion near a free surface

1. Statement of the problem and the experimental method -- 29
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3. Effect of ground properties on scattering velocity -- 42

PART II. Throwout blasting

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AM:033963

Conclusion --- 106

SUB CODE: WA, ES

OTHER: 001

SUBMITTED: 27Nov63

NO REF SOV: 023

Card 4/4

AP7002297

SOURCE CODE: UR/0210/66/000/001/0094/0101

AUTHOR: Rodionov, V. P.

ORG: All-Union Petroleum Scientific Research Geological Prospecting Institute,
Leningrad (Vsesoyuznyy Neftyanoy nauchno-issledovatel-skiy geologorazvedochnyy
institut)

TITLE: Dipolar character of the earth's magnetic field in the late cambrian
and ordovician in the southern part of the Siberian Platform

SOURCE: Geologiya i geofizika, no. 1, 1966, 94-101

TOPIC TAGS: earth magnetic field, physical geology / Tena river, Angara River,
Ilim River

ABSTRACT:
for solution of the problem of whether the earth's magnetic field was di-
polar in the Early Paleozoic; deposits of the Upper Cambrian and Ordovician
were studied in exposures along the Lena, Angara and Ilim rivers. The in-
vestigated area had a longitudinal extent of 1,000 km. The geological
stratification of the area is reviewed for background purposes. The meth-
ods used are fully described. The investigations indicated that the forma-
tion of sediments in the Late Cambrian and Ordovician in this area occurred
in the low latitudes (from 12° N to 12° S). This is confirmed by paleo-
climatic data. The red color of the rocks and the presence of gypsum in
Card 1/2.

UDC: 550.383/4(571.53)

L 09172-67

ACC NR: AP7002297

them indicates a hot, dry climate at the time of formation of the sediments. The paleomagnetic data show that in the Late Cambrian and Ordovician the earth's magnetic field on the Siberian Platform was extremely close to the field of a central axial dipole. Orig. art. has: 5 figures, 3 formulas and 1 table.

[JPRS: 36,186]

SUB CODE: 08 / SUBM DATE: 15Mar65 / ORIG REF: 003

Card 2/2

nst

RODIONOV, V.P., aspirant

Sources, manufacture and use of reclaimed wool. Tekst. prom.
25 no.9:77-79 S '65. (MIRA 18:10)

1. Moskovskiy institut narodnogo khozyaystva imeni G.V.
Plekhanova.

RODIONOV, V.P.; SIDOROVA, E.P.

Paleomagnetic studies of Upper Cambrian, Ordovician, and
Lower Silurian sections in the southern part of the Siberian
Platform. Trudy VNIGRI no.204:50-68 '63. (MIRA 16:6)

(Siberian Platform—Geology, Stratigraphic)
(Siberian Platform—Rocks, Sedimentary—Magnetic
properties)

RODIONOV, V.P.; SIDOROVA, E.P.

Results of the paleomagnetic study in the southern part of the
Siberian Platform and adjacent regions. Trudy VNIGRI no.186:
354-364 '61. (MIRA 15:3)
(Siberia--Geology, Stratigraphic) (Magnetism, Terrestrial)

TARVIT-GONTAR', I.A.; LOGACHEVA, L.S.; KICHATOV, E.A.; KIREYEVA, O.V.;
ROSHKO, N.P.; GOLOBUTO, V.V.; RODIONOV, V.P.

Study of centers of tick-borne spirochetosis, and methods for the
control of carriers. Sov. zdrav. Kir. no.1:44-46 Ja-F '62.
(MIRA 15:4)

1. Iz Kirgizskogo instituta epidemiologii, mikrobiologii i gigiyeny
(direktor - kand.med.nauk V.M.Perelygin), Respublikanskoy sanitarno-
epidemiologicheskoy stantsii (glavnyy vrach - A.A.Mashkevich) i
Sanitarno-epidemiologicheskogo otryada Leningradskogo rayona
(glavnyy vrach - P.P.Yagudyayev).

(LENIN DISTRICT (OSH PROVINCE)—SPIROCHETOSIS)
(TICKS AS CARRIERS OF DISEASE)

RODIONOV, V.S.

Possibility for determining the rate and time of watering on the
basis of cell sap concentration in corn. Fiziol. rast. 9 no.1:
91-97 '62. (MIRA 15:3)

1. Kabardino-Balkar State Agricultural Experimental Station, Kuyan.
(Corn (Maize)--Water requirements)

L 34554-65 EWG(j)/EWG(r)/EWT(1)/FS(v)-3/EWG(v)/EWG(a)/EWG(c) Pe-5 DD

ACCESSION NR: AR5003958

S/0299/64/000/023/0004/0004

SOURCE: Ref. zh. Biologiya. Sv. t., Abs. 23022

AUTHOR: Rodionov, V. S.

29
13

TITLE: Ratio between vegetative and specific (variety) changes in photosynthesis intensity in some representatives of the Beta genus

CITED SOURCE: Sb. tr. aspirantov i molodykh nauchn. sotrudn. Vses. in-t rasteniyevodstva, v. 4(8), 1964, 39-49

TOPIC TAGS: Beta genus, photosynthesis, oxygen consumption, radioactive carbon, dispersion analysis

TRANSLATION: Earlier published data (Botan. Zh., 1962, 47, No. 7) on the intensity of $C^{14}O_2$ assimilation of cut leaves from 5 species (13 samples) of beets have been analyzed statistically by a dispersion analysis method. A reliability table for specific and variety differences in CO_2 assimilation of beet leaves is given for 3 probabilities (0.90, 0.95, and 0.99). Substantial differences in photosynthesis intensity are shown between the rhizocarpous, foliar,

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L 34554-65

ACCESSION NR: AR5003958

eastern, and calyciform species of beets. On the basis of the instability of specific (variety) differences in $C^{14}O_2$ assimilation during the observation years (two year data), it is suggested that photosynthesis intensity ratios between the investigated species (varieties) other than the ratios obtained by the author can be obtained by changing plant cultivation conditions. The basic types of changes in $C^{14}O_2$ intake intensity appear during vegetation (84.2-88.9%, if total dispersion is assumed as 100%) in all beet species. The percentage of specific (variety) differences is less meaningful (1.3-5.7%). Bibliography 30 titles. Author's abstract.

SUB CODE: LS

ENCL: 00

Card 2/2

RODIONOV, V.S.

Comparative intensity of photosynthesis and respiration in different species and varieties of the genus *Lycopersicon*. Fiziol. rast. 10 no. 6:644-651 N-D '63. (MIRA 17:1)

1. All-Union Plant-Growing Institute, Leningrad.

RODIONOV, V.S.

Rate of photosynthesis and respiration in some species of the genus
Beta L. Bot. zhur. 47 no.9:1283-1291 S '62. (MIRA 16:5)

1. Vsesoyuznyy institut rasteniyevodstva, Leningrad.
(Beets) (Photosynthesis) (Plants--Respiration)

RODIONOV, V. S.

Effect of the drainage by furrows of fall-tilled fields on
soil erosion during spring thawing. Zemledelie 24 no.9:53-55
S '62. (MIRA 15:10)

(Drainage) (Erosion)

RODIONOV, V. S.

Rodionov, V. S. "Adaptation of the screw propeller and cappings for service in shallow water," Trudy Vsesoyuznogo nauchno-issledovatel'skogo instituta tekhnicheskoy fiziki, symposium 5, issue 3, 1948 p. 26-33

SO: U-2888, Letopis zhurnal'nykh Statey, No. 1, 1949

IVANOV, G.S.; RODIONOV, V.S.

Instructions for nautical leveling of marine hydrographic points.
Trudy GOIN no.40:117-131 '57. (MIRA 10:7)
(Hydrographic surveying)

SOBOLEV, S.S., prof., doktor sel'skokhozyaystvennykh nauk, MALYSHKIN, M.M.;
SAVCHENKO, S.M.; RODIONOV, V.S.

Effectiveness of cultivation practices in the control of dust storms.
Zemledelie 8 no.10:55-61 0 '60. (MIRA 13:10)
(Dust storms) (Soil conservation)

NOVIKOV, Aleksandr Nikolayevich; RODIONOV, Vasiliy Vasil'yevich;
KLIONER, L.I., red.; BALDINA, N.F., tekhn. red.

[Results of the surgical treatment of pulmonary cancer] Rezul'-
taty khirurgicheskogo lecheniya raka legkogo. Moskva, Medgiz,
1962. 238 p. (MIRA 15:7)
(LUNGS—CANCER) (LUNGS—SURGERY)

RODIONOV, V.V.

Surgical activity in pulmonary cancer. Khirurgiia no.8:28-34
Ag '62. (MIRA 15:8)

1. Iz Gosudarstvennogo onkologicheskogo instituta imeni P.A.
Gertsena (dir. - prof. A.N. Novikov).
(LUNGS--CANCER)

RODIONOV, V.V. (Moskva G-351, Kuntsevskaya ul., d. 17, kv. 18)

Results of surgical treatment of carcinoma of the lung.
Grud. khir. 5 no.6:79-86 N-D'63 (MIRA 17:2)

1. Iz Gosudarstvennogo onkologicheskogo instituta imeni P.A.
Gertsena (direktor - prof. A.N.Novikov) Ministerstva zdavo-
okhraneniya RSFSR.

NOVIKOV, A.N., GARIN, N.D.; RODIONOV, V.V.

Lobectomy in lung cancer. Grudn. khir. 5 no.3:54-58 My-Je '63
(MIRA 17:1)

1. Iz Gosudarstvennogo onkologicheskogo instituta imeni P.A.
Gertsena (dir. - prof. A.N.Novikov. Adres avtorov: Moskva,
2-y Botkinskiy pr., d.3, Onkologicheskii institut imeni Ger-
tsena.

RODIONOV V.V.

Q-5

USSR/Farm Animals - Honey Bee.

Abs Jour : Ref Zhur - Biol., No 7, 1958, 31038

Author : Rodionov V.V.

Inst :

Title : The Peculiarities of the Management of Bees in the
Mountains of Eastern Kazakhstan.
(Osobennosti sodержaniya pchel v gorakh Vostochnogo
Kazakhstana).

Orig Pub : Pchelovodstvo, 1957, No 8, 27-32.

Abstract : NO abstract.

Card 1/1

- 66 -

RODIONOV, V.V.; SHABARSHOV, I.A.; BABKINA, N.G.; red.

[Multistory beehives and methods for beekeeping] Mnogo-
korpusnyi ulei i metody pchelovozhdeniia. Izd.2., pe-
rer. i dop. Moskva, Koles, 1965. 157 p.
(MIRA 18:5)

GABRIEL, N.M.; DUBILIN, V.V.

Indications for lobectomy in lung cancer. Vop.onk. 11 no.11:
16-22 1965. (MIRA 19:1)

1. Iz Gosudarstvennogo onkologicheskogo Instituta imeni P.A.
Gerasimova (Direktor - prof.A.N.Novikov).

COUNTRY : USSR
CATEGORY : Farm Animals.
The Honeybee.
ABS. JOUR. : RZhBiol., No. 6, 1959, No: 25937
AUTHOR : Zaychikov, N. Ye.; Rodionov, V. V.
INST. :
TITLE : Sukhumi State Bee Nursery.
ORIG. PUB. : Pchelovodstvo, 1958, No 7, 17-20
ABSTRACT : The bee nursery supplies bees and queens of
the Abkhazskaya gray mountain bee population.
Organized in 1949, it possesses 4 apiaries
and 420 colonies.

Card:

1/1

RODIONOV, V.V.; SHABARSHOV, I.A.

[Multistoried beehive and the methods of bee culture]
Mnogokorpusnyi ulei i metody pchelovozhdeniia. Moskva,
Izd-vo sel'khoz. lit-ry zhurnalov i plakatov, 1963. 53 p.
(MIRA 17:9)

VOROZHTSOV, N.N.; RODIONOV, V.Ya.

Reaction of naphthalene with sulfur. Dokl. AN SSSR 134 no.5:1085-
1086 O '60. (MIRA 13:10)

1. Moskovskiy khimiko-tekhnologicheskij institut im. D.I.Mendeleeva.
Chlen-korrespondent AN SSSR (for Vorozhtsov).
(Naphthalene) (Sulfur)

30V/79-28-8-15/66

AUTHORS: Shemyakin, N. M., Kolosov, M. N., Karapetyan, H. G.,
Rodionov, V. Ya.

TITLE: Investigations on Sarcomycin and Its Analogs (Issledovaniya
v oblasti sarkomitsina i yego analogov) II. Synthesis of the
Sarcomycin Isomer (II. Sintez izomera sarkomitsina)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 8, pp. 2068-2074
(USSR)

ABSTRACT: In connection with a previous publication on sarcomycin (Ref 1)
the authors worked on synthesizing this antibiotic (Formula I)
and its ethyl ester isomer (II), which differs from sarcomycin
in the positions of its methylene groups. Although sarcomycin
has a simple structure its synthesis is especially difficult
because it is easily oxidized and has a tendency to polymerize
and to form isomers. Therefore, an energetic reaction cannot
be carried out, and only mild reagents and lowered reaction
temperatures can be used. Since the characteristic β -methylene-
 γ -keto-acid group in sarcomycin cannot stand strong treatment
the splitting of quarternary ammonium salts of the type

Card 1/3

Investigations on Sarcomycin and Its Analogs.

SOV/79-28-8-15/66

II. Synthesis of the Sarcomycin Isomer

$-\text{COCH}(\text{CH}_2\overset{+}{\text{N}}\text{R}_3)-$ seemed to be a promising synthetic method. One can synthesize in various ways the compounds of type (III) necessary for producing sarcomycin. The simplest way to synthesize these compounds was to use the easily obtainable cyclopentanone-3-carboxylic acid (IV), by introducing the dialkyl aminomethyl group into the 2 position by the Mannich reaction and then halogenalkylating the resulting tertiary amine. The synthesis of the isomer of the antibiotic sarcomycin (which is used against malignant tumors) was accomplished in this way. The starting material was cyclopentanone-3-carboxylic acid. This compound was condensed with formaldehyde and piperidine. The next steps were esterification and iodomethylation, and the end-product was then converted to the corresponding quaternary ammonium salt. The splitting of the salt yielded the ester of the iso-sarcomycin. There are 10 references, 2 of which are Soviet.

ASSOCIATION: Institut biologicheskoy i meditsinskoy khimii Akademii meditsinskikh nauk SSSR (Institute of Biological and Medical Chemistry of the Academy of Medical Sciences, USSR)

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...tion on Sarcomycin and Its Analogs.
... of the Sarcomycin Isomer

5770-12-8-10-0

SUBMITTED: March 18, 1957

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RODIONOV, V.Ye.

Three cases of heart wound suturing. Khirurgia no.8:74 Ag. '55.
(MLRA 9:2)

1. Iz khirurgicheskogo otdeleniya bol'nitay Noril'skogo
gornometallurgicheskogo kombinata Krasnoyarskogo kraya, poluostrov
Taymyr.

(HEART--SURGERY)

84984

S/108/60/015/009/010/012/XX
B012/B063

9.3230

AUTHOR: Rodionov, Ya. G., Active Member of the Society

TITLE: The Optimum Filter Passband in a System of Reception of
Frequency-modulated Signals With Delayed Tuning

PERIODICAL: Radiotekhnika, 1960, Vol. 15, No. 9, pp. 47 - 53

TEXT: A new system of frequency-modulated signals was proposed in 1940, which permits interference-free reception. This method was theoretically elaborated by D. V. Ageyev in 1952-54. (Ref.1). The method of receiving frequency-modulated signals with servotuning consists in the following: one of the intermediate (or high) frequency filters of the receiver of frequency-modulated signals has a narrower transmission band, as compared with conventional systems; its resonant frequency varies with the instantaneous value of the frequency of the resulting voltage on this filter, this voltage being basically determined by the useful signal. If an undistorted control is ensured for the useful signal with the aid of the resonant frequency of the narrow-band (servo-) filter, and this

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control is considerably weakened for interferences with a wider frequency spectrum (as compared with the spectrum of the voltage modulating the useful signal), the corresponding system then exhibits a higher stability to interferences in reception. Fig.1 gives the Scheme of a receiver of frequency-modulated signals with servotuning, and Fig.2 shows the equivalent circuit for the control channel in first approximation. For a determination of the stability to interference, the interference level of the voltage on the servo-filter is determined in the first place. This total level of the interference at the input of the frequency detector can be found, provided the interference components causing the parasitic frequency- and amplitude modulation be known. The notion of equivalent frequency response (Ref.1) is applied here for determining the parasitic frequency modulation of the resulting voltage on the servo-filter (Ref.1). If condition (6) is satisfied, $y_1 = 1$, and at the given F_{max} value the band-pass width of the servo-filter will be inversely proportional to the band-pass width of

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the control channel. F is the modulation frequency, y_1 is the ordinate of the equivalent frequency response. The parasitic amplitude modulation of the useful-signal voltage on the servo-system is taken into account and it is shown that, as a consequence, the resulting voltage amplitude obtains a determined value a_0 (Fig.3). The approximate method given in paper (Ref.1) is used for the calculation of a_0 , and formula (17) is derived in this connection. Fig.4 shows the a_0 -curve calculated from this formula as a function of the band-pass width $b = \Delta F/2F_{\max}$ of the servo-filter. Fig.5 shows the family of curves of the equivalent frequency responses calculated from formula (9). It may be seen from this Fig. that the form of the equivalent frequency response is largely dependent on b . Formula (21) is written down for an estimation of the stability to interference of the system with servotuning. Fig. 6 shows the curve calculated from this formula. Fig.7 gives the curve of the linear distortions of the useful signal as a function of b , and the curve of nonlinear distortions k_f likewise as a function of b . The

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following conclusions are drawn: 1) when projecting a receiver of frequency-modulated signals with servotuning one must take into account the fact that the band-pass width is uniquely connected with the band-pass width of the control channel. The smaller the filter width, the larger must be the band-pass width of the control channel under otherwise equal conditions. 2) The optimum band-pass width of the filter (stability to interference of the receiver remains fairly large, where- as the useful signal distortions are relatively small) equals $2 \pm 2.5 F_{\max}$, which corresponds to $b = 1 \pm 1.25$. The author thanks

Professor D. V. Ageyev for having revised the manuscript. There are 7 figures and 3 Soviet references.

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9.3273 (1040, 1159)

AUTHOR: Rodionov, Ya.G., Member of the Society

TITLE: The effect of weak oscillating interference on the
FM reception with follow-up tuning

PERIODICAL: Radiotekhnika, v. 16, no. 11, 1961, 34 - 38

TEXT: In the present article, the author studies the effect of oscillating interference and derives the expression for the degree of this interference reception system with follow-up tuning. It is shown that the oscillating type interference by virtue of its effect on FM reception produces distortion of the signal waveform as the receiver output. This distortion depends on the interference level and on the effect of its detuning of the receiver with respect to the center frequency of the useful FM signal. Evaluation of the distortion for small interference level may be made from the expression for non-linear distortion factor k_f as given by

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$$\kappa_f = \sqrt{(py_0 J_0)^2 + \sum_{n=1}^{\infty} \left\{ y_-^2 \left[\frac{1}{2} (J_{n-1} + J_{n+1}) - pJ_n \right]^2 + \rightarrow \right.} \quad (20)$$

$$\left. \rightarrow + y_+^2 \left[\frac{1}{2} (J_{n-1} + J_{n+1}) + pJ_n \right]^2 \right\} ,$$

where

$$p = \frac{\Delta \omega_0}{\Delta \omega_m} = \frac{\Delta f_0}{\Delta f_m} , \quad (21)$$

and y_0 - coordinate of the amplitude frequency characteristic of the LF filters for $F = \Delta f_0$, y_- and y_+ - the ordinate values of this characteristic for frequencies $F_- = n\Omega - \Delta \omega_0$ and $F_+ = n\Omega + \Delta \omega_0$, respectively. The distortion of the signal in an FM receiver with follow-up tuning are fundamentally smaller, compared with those in a normal FM receiver, especially for small amplitude oscillating interference. This is due to the fact that the pass-band of the equivalent frequency response of such FM receivers is much

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narrower, compared with that of the overall frequency response of the normal receiver. There are 3 figures and 3 Soviet-bloc references.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A.S. Popova (Scientific and Technical Society of Radio Engineering and Electrical Communication im. A.S. Popov) [Abstractor's note: Name of the Association taken from first page of journal]

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valuation of signal distortion caused by determined
noise. Study GSI 18 no. 2:51-56 (1957) (XLR 17:8)

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Dissertations for the degree of candidate of technical sciences
presented at the A.A. Zhdanov Polytechnical Institute in Gorkiy.
Izv. vys. ucheb. zav.; radiotekh. 6 no.2:211 Mr.-Ap '63.
(MIRA 16:6)

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controlling resonant frequency. Trudy GPI 14 no.5:80-82 '58 (MIRA 13:3)
(Radio--Receivers and reception)